



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
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D117-762-041
Job Sheet 199093



Part No: D117-762-041

Job Qty: 1 pcs

Part Name: Replacement Skidtube



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 8/12/19

Job Tracking No:

Due Date: 9/6/19

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG D3582 REV E IPP Rev:A 07.06.11 New Issue EC IPP Rev:B 08-02-22 change to revA as per dwg DD verF by:EC IPP REV:C 15.06.11 AS PER CHG002 DD VERF:JLM IPP REV:D 16.02.05 DWG REV.C (ecn16-514) DD VERF:JLM IPP REV:E 17.01.17 as per dwg REV.D DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
130	Skidtubes - 1	1 pcs	9/6/19		0.00	3.30	Skidtubes - 1		DO
							Skidtubes - 2		
							Skidtubes - 3		
							Skidtubes - 4		
							Skidtubes - 5		
							Skidtubes - 6		
							Skidtubes - 7		
140	Skidtubes - 2 - B4B	1 pcs	9/6/19		0.00	3.30	Skidtubes - 1 - B4B		B4
							Skidtubes - 2 - B4B		
							Skidtubes - 3 - B4B		
							Skidtubes - 4 - B4B		
							Skidtubes - 5 - B4B		
							Skidtubes - 6 - B4B		
							Skidtubes - 7 - B4B		
150	QC 10	1 pcs	9/6/19		0.00	0.00	QC 10 - 10		SEP 09 2019
							QC 10 - 18	DAS	
							QC 10 - 24	24	
							QC 10 - 43	9-89	
							QC 10 - 50		
							QC 10 - 58		
							QC 10 - 9		
160	QC 5	1	9/6/19		0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		



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CANADA
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Container No: S211239

Part: D117-762-041

Job No: 199093

Serial No/Batch: S211239

Revision:

Inspector:

Exp Date:

Instructions: FAA STC SR01853SE 18/10/17 TC STC LoA RI

Plex 8/12/19 3:02 PM Dart.lajeunesse.marie

					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	DAS SEP 09 2019 68
					QC 5 - 9	9-89
					QC 5 - 50	
					QC 5 - 30	
					QC 5 - 40	
					QC 5 - 61	
					QC 5 - 81	
					QC 5 - 81	
170 Handfinish - 1-1 Chemical- B4B	1 pcs	9/6/19	0.00	0.97	Handfinish - 1 - 1 - B4B	
					Handfinish - 1 - 2 - B4B	
					Handfinish - 1 - 3 - B4B	SEP 09 2019
					Handfinish - 1 - 4 - B4B	
					Handfinish - 1 - 5 - B4B	
					Handfinish - 1 - 6 - B4B	
					Handfinish - 1 - 7 - B4B	
					Handfinish - 1 - 8 - B4B	
					Handfinish - 1 - 9 - B4B	
					Handfinish - 1 - 10 - B4B	
					Handfinish - 1 - 11 - B4B	
					Handfinish - 1 - 12 - B4B	
					Handfinish - 1 - 13 - B4B	
					Handfinish - 1 - 14 - B4B	
					Handfinish - 1 - 15 - B4B	
					Handfinish - 1 - 16 - B4B	
					Handfinish - 1 - 17 - B4B	
					Handfinish - 1 - 18 - B4B	
					Handfinish - 1 - 19 - B4B	
					Handfinish - 1 - 20 - B4B	
					Handfinish - 1 - 21 - B4B	
					Handfinish - 1 - 22 - B4B	
180 QC 7	1 pcs	9/6/19	0.00	0.00	QC 7 - 10	
					QC 7 - 13	
					QC 7 - 14	
					QC 7 - 15	
					QC 7 - 17	
					QC 7 - 18	
					QC 7 - 19	
					QC 7 - 2	
					QC 7 - 28	
					QC 7 - 3	
					QC 7 - 30	
					QC 7 - 34	
					QC 7 - 36	
					QC 7 - 37	
					QC 7 - 41	
					QC 7 - 47	

					QC 7 - 48	
					QC 7 - 51	
					QC 7 - 58	
					QC 7 - 59	
					QC 7 - 60	MIG
					QC 7 - 9	
					QC 7 - 68	
					QC 7 - 50	
					QC 7 - 67	
					QC 7 - 40	
					QC 7 - 24	
					QC 7 - 43	
					QC 7 - 61	
					QC 7 - 81	
190 Skidtubes - 3 - B4B	1 pcs	9/6/19	0.00 3.33		Skidtubes - 1 - B4B	DD
					Skidtubes - 2 - B4B	
					Skidtubes - 3 - B4B	
					Skidtubes - 4 - B4B	
					Skidtubes - 5 - B4B	AE
					Skidtubes - 6 - B4B	
					Skidtubes - 7 - B4B	
200 QC 10	1 pcs	9/6/19	0.00 0.00		QC 10 - 10	
					QC 10 - 18	DAS 24 9-89
					QC 10 - 24	SEP 13 2019
					QC 10 - 43	
					QC 10 - 50	
					QC 10 - 58	
					QC 10 - 9	
210 QC 5	1 pcs	9/6/19	0.00 0.00		QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	DAS SEP 13 2019 68 9-89
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	
					QC 5 - 40	
					QC 5 - 61	
					QC 5 - 81	
215 Handfinish - 2-1 Pressure- B4B	1 pcs	9/6/19	0.00 0.97		Handfinish - 2 - 1 - B4B	
					Handfinish - 2 - 2 - B4B	SEP 18 2019
					Handfinish - 2 - 3 - B4B	
					Handfinish - 2 - 4 - B4B	
220 Powdercoat - 1 White Gl(A)- B4B	1 pcs	9/6/19	0.00 0.26		Powdercoat - 1 - B4B	
					Powdercoat - 2 - B4B	
					Powdercoat - 3 - B4B	BL 19-10-01.
					Powdercoat - 4 - B4B	
230 QC 3	1 pcs	9/6/19	0.00 0.00		QC 3 - 10	
					QC 3 - 13	
					QC 3 - 15	MIG-10-01
					QC 3 - 17	

					QC 3 - 18	
					QC 3 - 2	
					QC 3 - 28	
					QC 3 - 3	
					QC 3 - 30	
					QC 3 - 34	
					QC 3 - 36	
					QC 3 - 41	
					QC 3 - 51	
					QC 3 - 58	
					QC 3 - 59	
					QC 3 - 68	
					QC 3 - 9	
					QC 3 - 40	
					QC 3 - 19	
					QC 3 - 43	
					QC 3 - 24	
					QC 3 - 61	
					QC 3 - 81	
250 Handfinish - 4-1-Assembly-B4B	1 pcs	9/6/19	0.00 0.97	Handfinish - 4 - 1 - B4B		11-10-6
				Handfinish - 4 - 10 - B4B		
				Handfinish - 4 - 11 - B4B		
				Handfinish - 4 - 12 - B4B		
				Handfinish - 4 - 13 - B4B		
				Handfinish - 4 - 14 - B4B		
				Handfinish - 4 - 15 - B4B		
				Handfinish - 4 - 2 - B4B		
				Handfinish - 4 - 3 - B4B		
				Handfinish - 4 - 4 - B4B		
				Handfinish - 4 - 5 - B4B		
				Handfinish - 4 - 6 - B4B		
				Handfinish - 4 - 7 - B4B		
				Handfinish - 4 - 8 - B4B		
				Handfinish - 4 - 9 - B4B		
260 QC 5	1 pcs	9/6/19	0.00 0.00	QC 5 - 10		
				QC 5 - 12		
				QC 5 - 17		
				QC 5 - 18		
				QC 5 - 19		
				QC 5 - 22		
				QC 5 - 24		
				QC 5 - 3		
				QC 5 - 43		
				QC 5 - 49		
				QC 5 - 51		
				QC 5 - 58		
				QC 5 - 68		
				QC 5 - 9		
				QC 5 - 50		
				QC 5 - 30		
				QC 5 - 40		
				QC 5 - 61		
				QC 5 - 81		
270 Packaging 3-1 - Stock - B4B	1	9/6/19	0.00 0.00	Packaging 3 - 1 - B4B		

pcs				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	DAS
				Packaging 3 - 25 - B4B	78
				Packaging 3 - 26 - B4B	9-89
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	DAS
275 DC - 1 - B4B	1	9/6/19	0.00 0.00	DC - 1 - B4B	21
	pcs			DC - 2 - B4B	9-89
280 QC 21 - FG	1	9/6/19	0.00 0.00	QC 21 - FG - 21	
	pcs			QC 21 - FG - 70	
				QC 21 - SA - 53	DAS

Part Op 130 - Skid tubes-1 (Skid tubes) 1-Cut Aft end using DT8185 2-Deburr ends 3-Drill Aft Cap holes using DT8678 *** OPEN
 Descriptions: AFT CAP HOLE TO .187" *** 4-Locate DT 8973 from aft cap holes & Drill Ground wire hole on top of tube. 5-Install 3/16
 cleco in Ground wire hole, then drill all X-Bolt holes using 3/16" drill. 6-Drill pilot holes for wearplates using DT8900-7.
 Open wearplate holes to Ø19/64" (0.297") as per Dwg D3582. 8-Drill holes for D5520-1 doubler using DT10309 A & B,
 locating from 4th and 5th crossbolt holes from aft using .1875 clekos. Spot drill tube using #20 drill (note 10). Remove
 DT10309 B. Re-install DT 10309 A drill thru tube and doubler using #20 drill (note 10), cleco as you go. Remove .1875
 clekos and open holes in tube and doubler to 0.750". Remove doublers and identify orientation. 9-Deburr doubler and
 doubler holes in skid tube. 10-Countersink doubler holes in skid tube as per Dwg. detail J and note 12 -Touch up alodine
 on D5520-1 doublers. 11- open ground wear holes to 0.391" as per section B-B 12-Open Aft Cap holes using .209" drill.
 13-Drill pilot holes for section D-D and E-E. Holes must be laid out by hand. Mark out Center line and make sure that 6.65
 and 5.906 measurements are respected. Double check before drilling, do not open holes to finish size. 12-Do not open
 holes of section G-G to finishes size.
 140 - QC10 (QC10- Inspect visual per QSI004- ground welds)
 Batch: 138789/139012-Grind flush
 150 - QC5 (QC5- Inspect part completeness to step on W/O)
 170 - HandFinish1 (Chemical Conversion Coat per QSI005 4.1)
 180 - QC7-1 (QC7-Inspect Chemical Conversion Coat)
 190 - Skid tubes-1 (Skid tubes) ***MASK OFF HOLES OF SECTION F-F (DO NOT C'SINK) 1-Open X-Bolt holes to finish
 size as per Dwg D3582, sections D-D, E-E, G-G as per Dwg. 2-Counter Sink X-BOLT holes as per Dwg D3582 D-D, E-E
 and G-G.***Do NOT countersink holes of section F-F). 3-Deburr and blow out chips from inside of tube, prep. tube for
 welding. 4-Install doublers using DT10309 B. Shave rivets as required. 5-Bond web as per Dwg D3582 & QSI 015 A/R
 241 Sike Flex Batch: 5200625 Exp Date: 07/25/2020 6- Swage x-bolt spacer as per dwg and

Section F-F QSI002. 7-Weld x-bolt spacers as per Dwg D3582 section D-D, E-E and G-G. A/R AL ROD

Batch: 8-Grind welds flush

200 - QC10 (QC10- Inspect visual per QSI004- ground welds)

210 - (QC5- Inspect part completeness to step on W/O)

215 - HandFinish2 (Pressure Wash per QSI005 4.3/ Clean and remove all markings) Touch-up alodine as per QSI

220 - Powdercoat1 (White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum) START TIME _____ OVEN TEMPERATURE:

FINISH TIME: _____

230 - (QC3- Inspect Part Finish)

250 - HandFinish4 (Assemble as per dwg) 1-Inspect for Foreign objects 2-Install Aft cap as per Dwg D3582, Detail "C"

A/R 241 Sika Flex Batch: 5200625 Exp Date: 20-7-27 3-Install Wearplates as per Dwg D3582 ,

Note: Install Bolt and washer on Ground Wire inserts on top of tube see section D-D of dwg D3582 *****Do not install bolts where indicated on Dwg(Note #6)***** 4- Wing Walk as per Dwg D3582 and QSI 005 4.4

260 - (QC5- Inspect part completeness to step on W/O)

270 - Identify and pack for shipping as per PPP D117-762-041 Location :FG081

275 - (Document Control) Photocopy bluefile & type labels per PPP D117-762-041 CHG003

280 - (QC21- Final Inspection - Work Order Release)

Job BOM

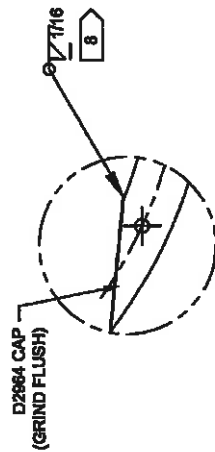
Part / Item	Component Name	Quantity	Operation	Container
D3582-1-BENT	Skidtube Assembly BK117	1 pcs (1 ea)	130-Skidtubes - 1	012200
D5520-1	Doubler	2 pcs (2 ea)	130-Skidtubes - 1	5200225
D2964	Cap	1 pcs (1 ea)	140-Skidtubes - 2 - B4B	5172498
CR3212-5-05	Rivet	68 pcs (68 ea)	190-Skidtubes - 3 - B4B	5146305
D2971	Cross Bolt Spacer	1 pcs (1 ea)	190-Skidtubes - 3 - B4B	5157507
D3584-1	Web	1 pcs (1 ea)	190-Skidtubes - 3 - B4B	5097024
D3662-1	Crossbolt Spacer	3 pcs (3 ea)	190-Skidtubes - 3 - B4B	5114770
D3662-3	Crossbolt Spacer	1 pcs (1 ea)	190-Skidtubes - 3 - B4B	5173644
D5304-1	Crossbolt Spacer	2 pcs (2 ea)	190-Skidtubes - 3 - B4B	516606
ALS4-1032-130	Rivnut	36 Ea (36 ea)	250-Handfinish - 4-1-Assembly-B4B	5014375
ALS4-428-165	Insert	2 Ea (2 ea)	250-Handfinish - 4-1-Assembly-B4B	5148275
AN3-5A	Bolt	2 Ea (2 ea)	250-Handfinish - 4-1-Assembly-B4B	5057267
AN3C4A	Bolt	28 Ea (28 ea)	250-Handfinish - 4-1-Assembly-B4B	5147567
AN4-4A	Bolt	2 Ea (2 ea)	250-Handfinish - 4-1-Assembly-B4B	5149150
D2965	Cap	1 pcs (1 ea)	250-Handfinish - 4-1-Assembly-B4B	5217812
D3508-11	Wearplate Aft Center	1 pcs (1 ea)	250-Handfinish - 4-1-Assembly-B4B	5193116
D3508-13	Wearplate Aft	1 pcs (1 ea)	250-Handfinish - 4-1-Assembly-B4B	5166570
D3508-3	Wearplate Fwd Center	1 pcs (1 ea)	250-Handfinish - 4-1-Assembly-B4B	5172981
D3508-9	Wearplate Fwd	1 pcs (1 ea)	250-Handfinish - 4-1-Assembly-B4B	5172983
D3558-11	Gasket Aft Center	1 pcs (1 ea)	250-Handfinish - 4-1-Assembly-B4B	5172981
D3558-13	Gasket Aft	1 pcs (1 ea)	250-Handfinish - 4-1-Assembly-B4B	5210680
D3558-3	Gasket Center Fwd	1 pcs (1 ea)	250-Handfinish - 4-1-Assembly-B4B	5210681
D3558-9	Gasket Fwd	1 pcs (1 ea)	250-Handfinish - 4-1-Assembly-B4B	5210682
NAS1149C0332R	Washer (AN960C10L)	28 Ea (28 ea)	250-Handfinish - 4-1-Assembly-B4B	5193136
NAS1149D0332J	Washer	2 Ea (2 ea)	250-Handfinish - 4-1-Assembly-B4B	5170370
NAS1149D0416J	Washer	2 Ea (2 ea)	250-Handfinish - 4-1-Assembly-B4B	5118150

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
130-Skidtubes - 1	D3582-1-BENT	1	4	0
	D5520-1	2	22	0
140-Skidtubes - 2 - B4B	D2964	1	28	0
190-Skidtubes - 3 - B4B	CR3212-5-05	68	670	0
	D2971	1	17	0
250-Handfinish - 4-1-Assembly-B4B	D3584-1	1	10	0
	D3662-1	3	31	0
	D3662-3	1	40	0
	D5304-1	2	17	0
	ALS4-1032-130	36	6,816	0
	ALS4-428-165	2	78	0
	AN3-5A	2	82	0
	AN3C4A	28	1,130	0
	AN4-4A	2	59	0
	D2965	1	55	0
	D3508-11	1	16	0
	D3508-13	1	13	0
	D3508-3	1	19	0
	D3508-9	1	16	0
	D3558-11	1	5	0
	D3558-13	1	5	0
	D3558-3	1	5	0
	D3558-9	1	5	0
	NAS1149C0332R	28	3,043	0
	NAS1149D0332J	2	2,515	0
	NAS1149D0416J	2	1,821	0

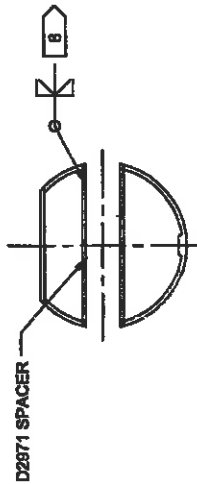
Part Specifications

Specifications could not be found.

Plex 8/12/19 3:02 PM Dart.lajeunesse.marie



DETAIL C
SCALE 4X

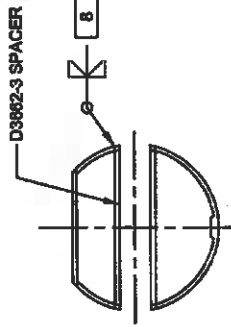


SECTION D-D
SCALE 4X

SECTION D-D NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D2871 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.750 DRILL TO REMOVE SPILL OVER

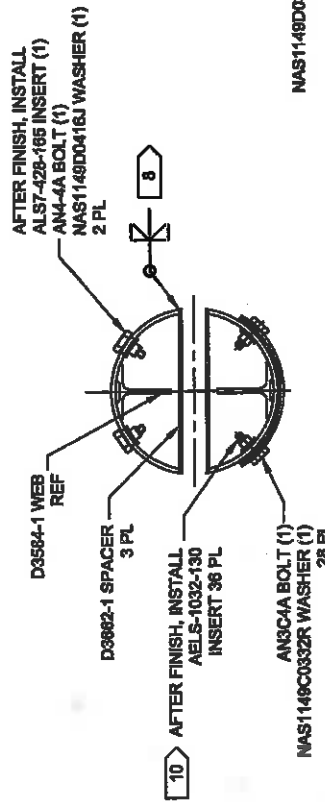


SECTION E-E
SCALE 4X

SECTION E-E NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3862-3 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.872 DRILL TO REMOVE SPILL OVER

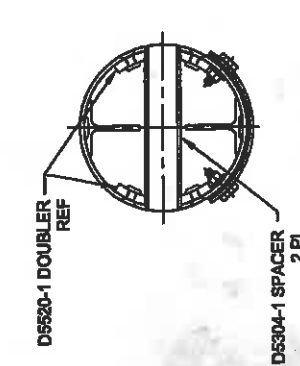


SECTION G-G
SCALE 4X

SECTION G-G NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3862-1 SPACER (3 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.515 DRILL TO REMOVE SPILL OVER

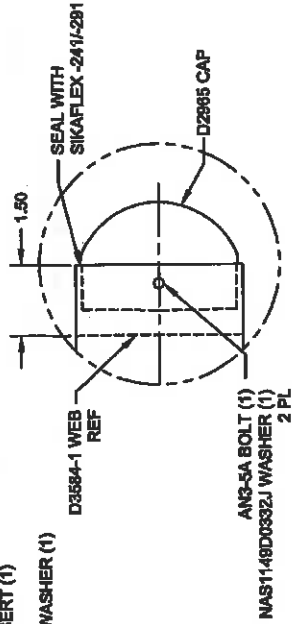


SECTION F-F
SCALE 4X

SECTION F-F NOTES

AFTER BENDING AND DRILLING ASSY
PERFORM THE FOLLOWING:

1. INSERT D5304-1 SPACER
2. SWAGE TO Ø0.565 +0.005/-0.000 X 1.0 DEEP PER QSI 002
3. OPEN THRU HOLE TO Ø0.625
4. GRIND FLUSH



DETAIL H
SCALE 4X

DESIGN	PH	PH	DESIGN	REV. E
DRAWN	AJS		DART AEROSPACE USA, INC	
CHECKED			EUGENE, OR	
INFO. APPR.			DRAWING NO.	SHEET 3 OF 4
APPROVED			D3582	
DE APPR.			TITLE	SCALE
DATE			BK 117 SKIDTUBE ASSEMBLY	NTS
17.03.27				

RELEASED
R 2017-08-11

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Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

Route update only

NCR No. _____

Job: _____

Part No. _____

DISPOSITION

☐	Rework
☐	Scrap
☐	Use-as-is

DEPARTMENT/PROCESS

☐	Skid-tube
☐	Machining
☐	Large Fab

☐	Cross tube
☐	Small Fab
☐	Finishing

☐	Eng. (Non-AW)
☐	Prod. Eng. Coord.
☐	Rec/Store/Packaging

☐	Engineering
☐	Water Jet
☐	Supplier
☐	Quality

Date: _____

Sequence #: _____

QTY Affected: _____

MRB (Q51042)

Description Work Order Deviation

Disposition

Completed By	
Lead hand / Supervisor	
QC / QA Coordinator	

Root Cause

☐	Operator
☐	Manufacturing Process
☐	Equip/Tooling
☐	Handling/Preservation
☐	Material
☐	Product Improvement
☐	Process Improvement
☐	Human Factors

FAULT CATEGORY

☐	Pressure/Forced	☐	Contamination	☐	Power Loss/Surge
☐	Bending	☐	Misaligned/off center	☐	Folio/Program
☐	Crushing	☐	BOM/Route	☐	Grain Direction
☐	Cracks	☐	Broken/Damage/Defect	☐	Weld
☐	Crimp/Kink/Ripple/Wave/Twist	☐	Incomplete/Unclear Instructions	☐	Wrong Stock Pulled
☐	Marks/Chatter	☐	Drill Holes	☐	Out of Sequence
☐	Mislabeled	☐	Fit/Function	☐	Off-set/Set-up
Other/Details:					

Other/Details: